



Prevention and Treatment of Lyme Disease

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Diagnosing Lyme Disease

Early Signs and Symptoms (3-30 days after infection)

- **Flu-like feelings** - headache, stiff neck, fever, muscle aches, and fatigue
- **Erythema Migrans (EM) rash** – typically starts as a small, reddish bump about one-half inch in diameter. It may be slightly raised or flat. It soon expands outward, often leaving a clearing in the center



Late Manifestations (days to months later)

- Bell's palsy
- Meningitis
- Shooting pains
- Changes in heart rhythm
- Recurrent joint swelling
- Arthritis



Lab Testing

- A two-tiered approach using a sensitive enzyme immunoassay (EIA) or immunofluorescent assay (IFA) followed by a Western immunoblot IgM
 - Culture for *B. burgdorferi*
 - Western immunoblot IgG

CDC 2008 Case Classification of Lyme Disease

Confirmed

- EM rash at least 2 inches (5 cm) in diameter with known exposure to tick infested area in endemic area, or
- EM rash at least 2 inches and positive lab testing for Lyme, or
- Late manifestation and positive lab testing for Lyme

Probable

- Lyme disease diagnosed by a physician and positive lab testing

Suspected

- EM rash with no known exposure to tick infested area or positive lab testing for Lyme, or
- Positive lab testing for Lyme with no clinical information

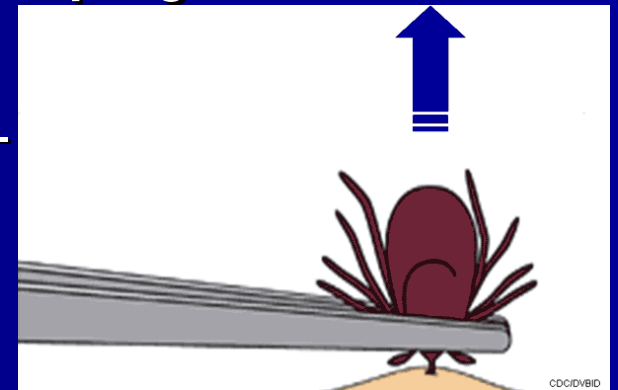
Key Points

- Loudoun and Fairfax Counties are considered endemic for Lyme disease
- It is not necessary to find a tick as long as you know you were in a tick infested area
- If lab testing is done, it is important for the doctor to order the two-tiered test. A single IgG result does not meet the new requirements

Preventing Lyme Disease

Primary Prevention (preventing infection)

- Keep ticks off property
- Dress appropriately
- Use tick repellent
- Perform daily tick checks
- Consider post exposure prophylaxis
 - doxycycline 200 mg for 1 dose, within 3 days of finding a black-legged tick that was attached for at least 36 hours



Secondary Prevention (treating infection)

- Suspect Lyme!!!
- See your doctor early if you think you may have Lyme disease
- Get appropriate treatment if diagnosed with Lyme
 - Doxycycline 100mg twice a day for 10-21 days
 - Amoxicillin 500mg three times a day for 14-21 days (for children under 8 years and for pregnant or breast feeding women)



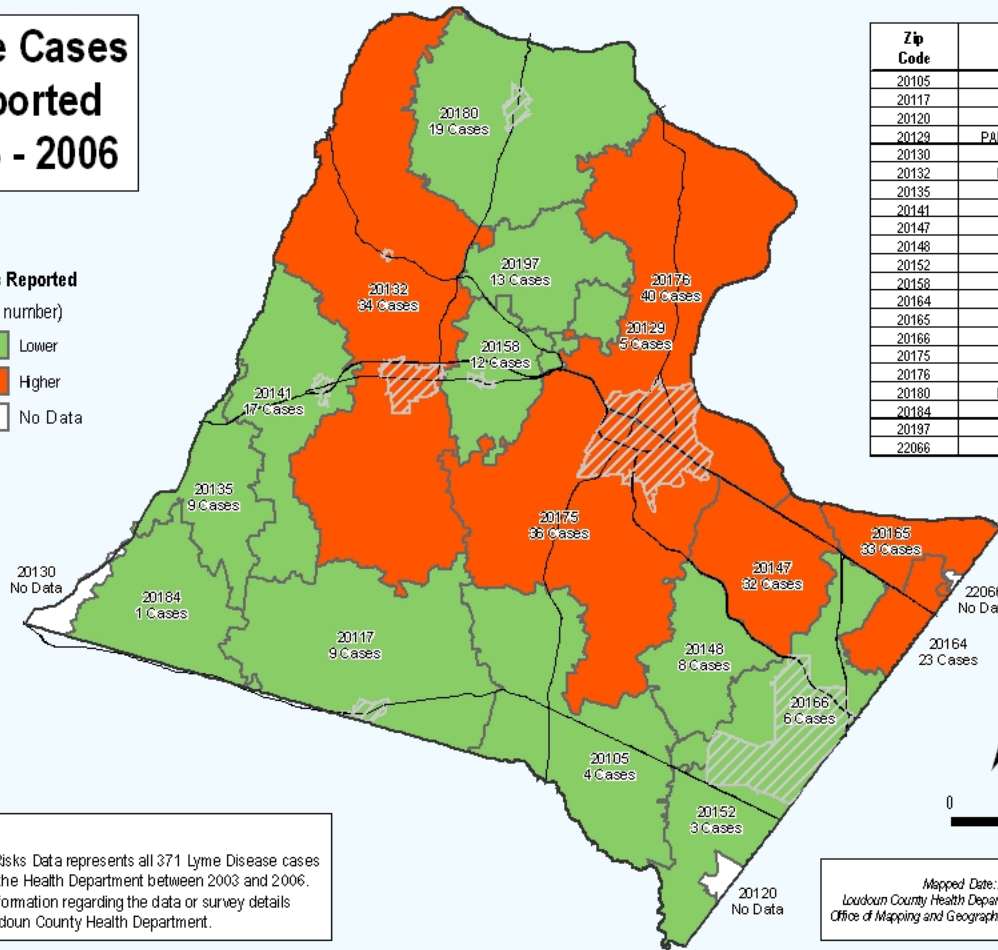
Lyme in Loudoun County

- Between 1999 and 2007, the number of reported cases of Lyme disease in Loudoun County increased from 29 to over 500 cases last year
- The number of chronic Lyme sufferers in Loudoun County continues to increase
- Interventions taken to date have not blunted this trend

Lyme Cases Reported 2003 - 2006

Cases Reported
(by number)

Lower
Higher
No Data

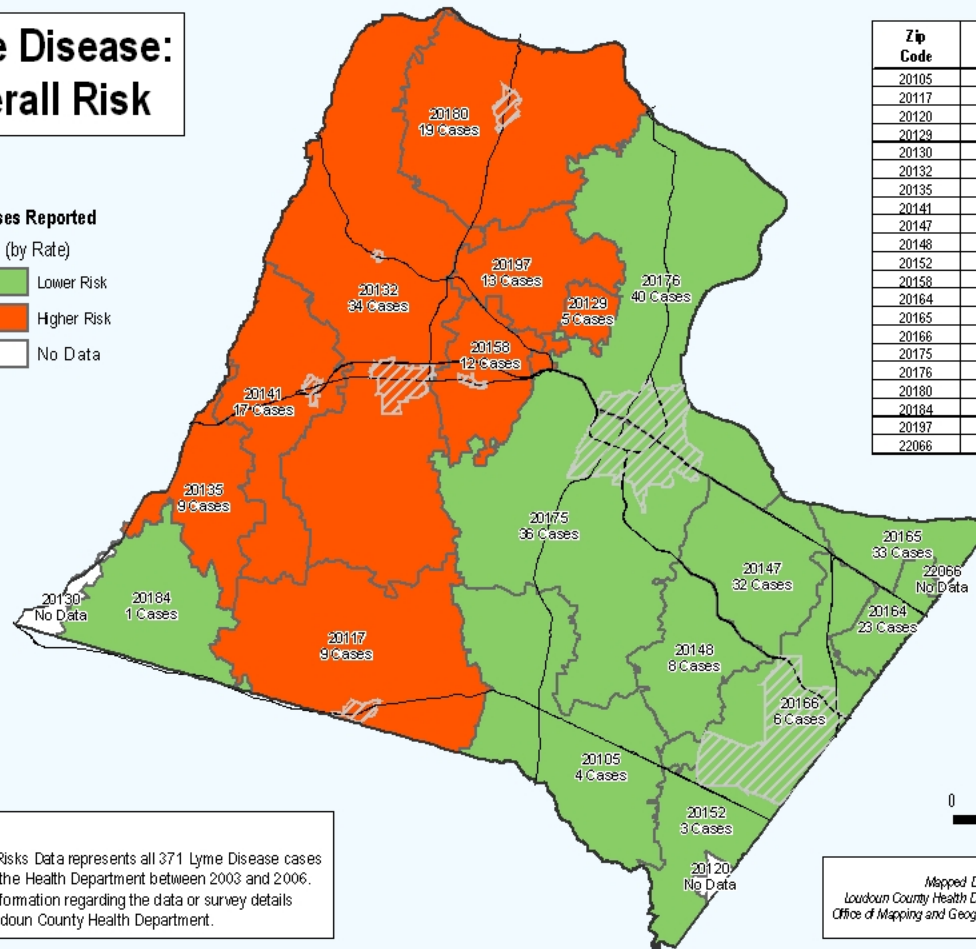
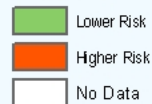


- Lyme cases were reported from all Loudoun zip codes

Lyme Disease: Overall Risk

Cases Reported

(by Rate)



Map Notes:

The Lyme Risks Data represents all 371 Lyme Disease cases reported to the Health Department between 2003 and 2006. For more information regarding the data or survey details contact Loudoun County Health Department.

Mapped Date: April 2006
 Loudoun County Health Department and
 Office of Mapping and Geographic Science

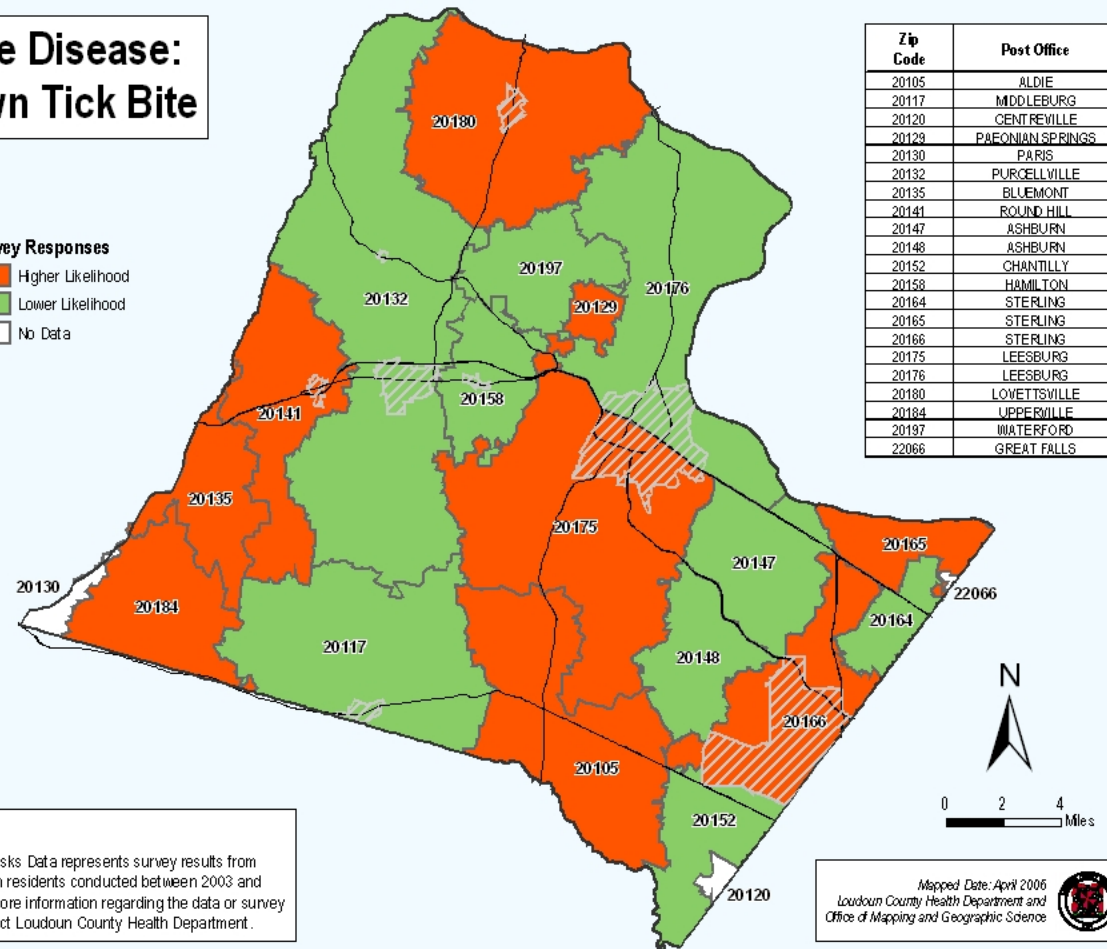


- Western Loudoun residents were at higher risk for having Lyme disease reported

Lyme Disease: Known Tick Bite

Survey Responses

- Higher Likelihood
- Lower Likelihood
- No Data



- Only 1/3 of respondents had a known tick bite

Lyme Disease: Infected on Own Property

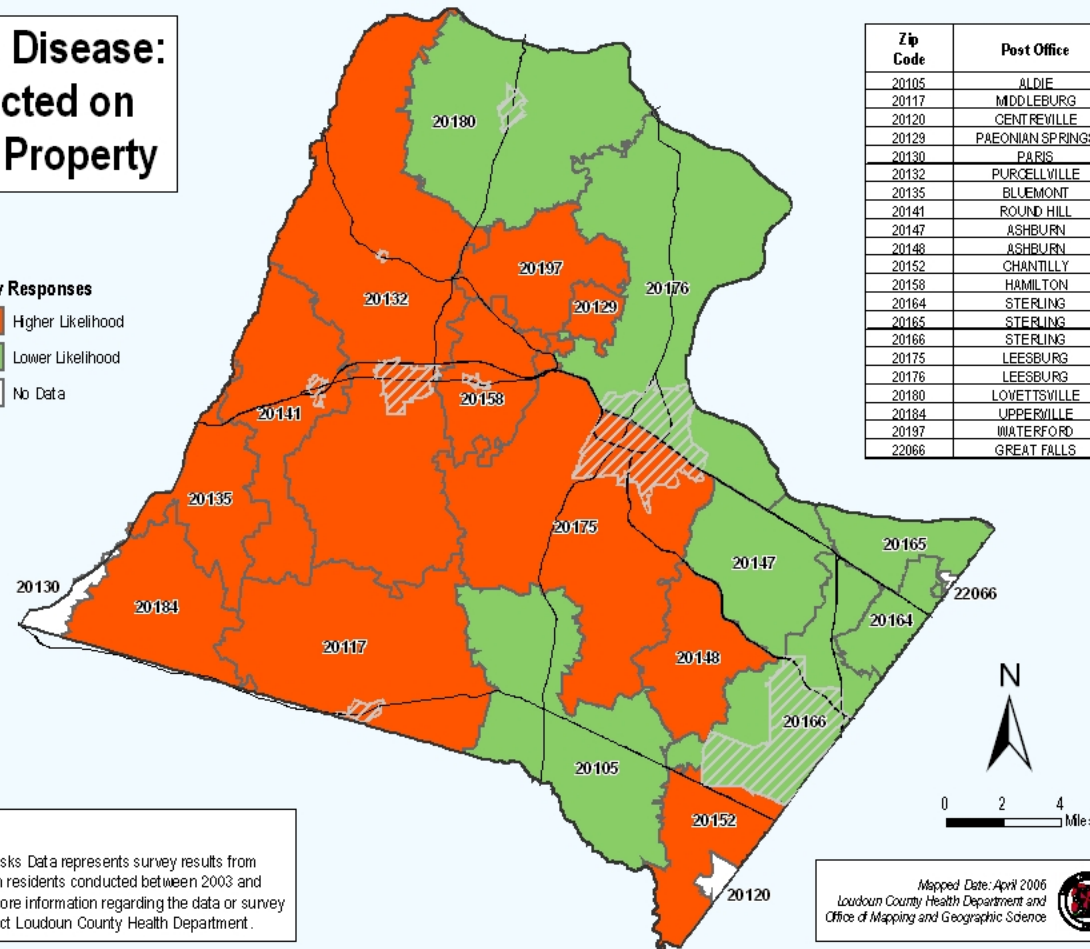
Survey Responses



Map Notes:

The Lyme Risks Data represents survey results from 183 Loudoun residents conducted between 2003 and 2006. For more information regarding the data or survey details contact Loudoun County Health Department.

Zip Code	Post Office
20105	ALDIE
20117	MIDDLEBURG
20120	CENTREVILLE
20129	PAEONIAN SPRINGS
20130	PARIS
20132	PURCELLVILLE
20135	BLUEMONT
20141	ROUND HILL
20147	ASHBURN
20148	ASHBURN
20152	CHANTILLY
20158	HAMILTON
20164	STERLING
20165	STERLING
20166	STERLING
20175	LEESBURG
20176	LEESBURG
20180	LOVETTSVILLE
20184	UPPERVILLE
20197	WATERFORD
22066	GREAT FALLS



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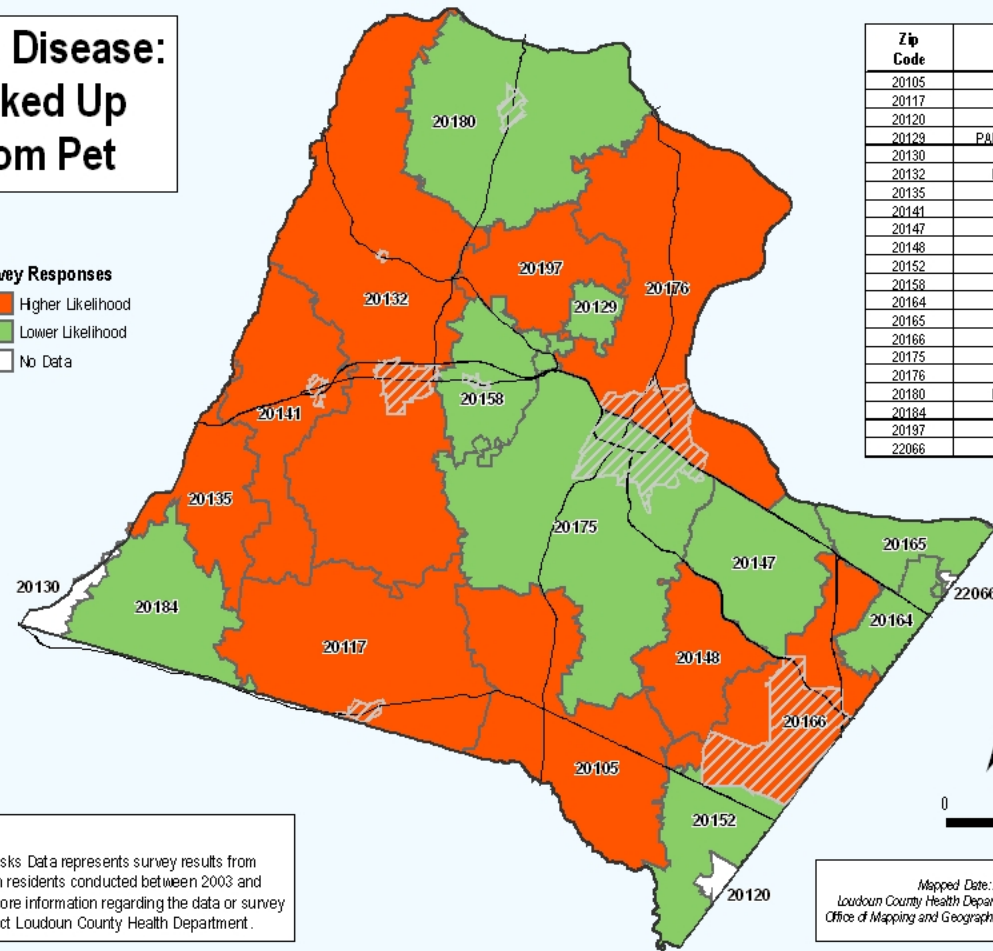


- 3/4 believe they were infected on their own property, higher in the West

Lyme Disease: Picked Up From Pet

Survey Responses

- Higher Likelihood
- Lower Likelihood
- No Data



Map Notes:

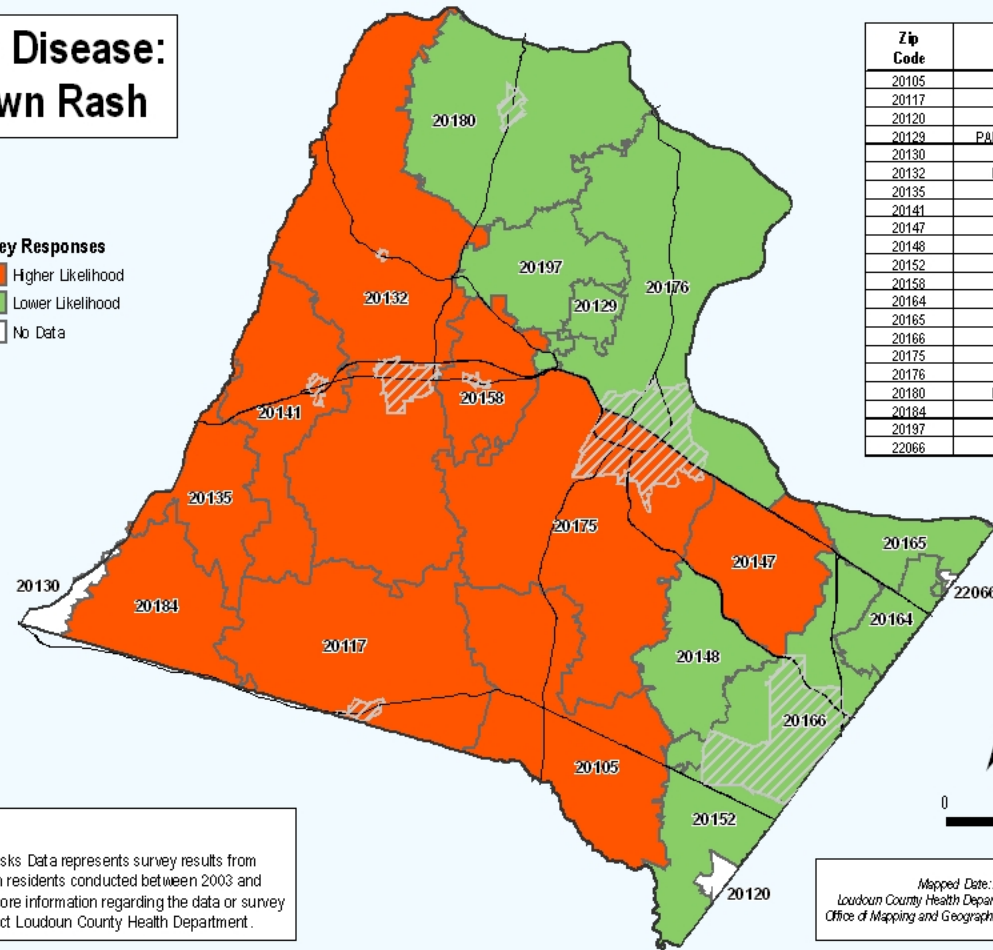
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- 1/4 believed they picked up the tick from their pet, higher in the West

Lyme Disease: Known Rash

Survey Responses



Map Notes:

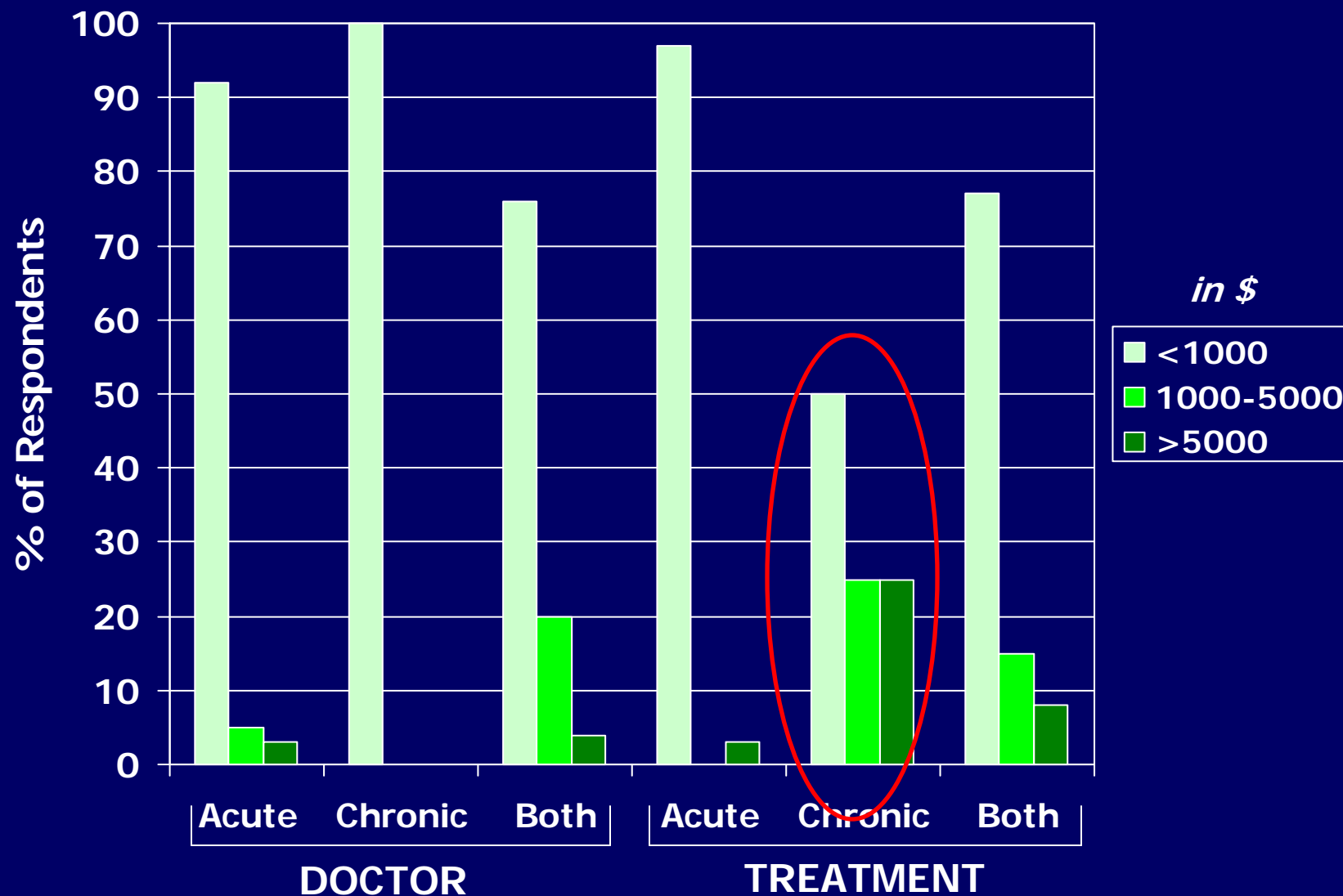
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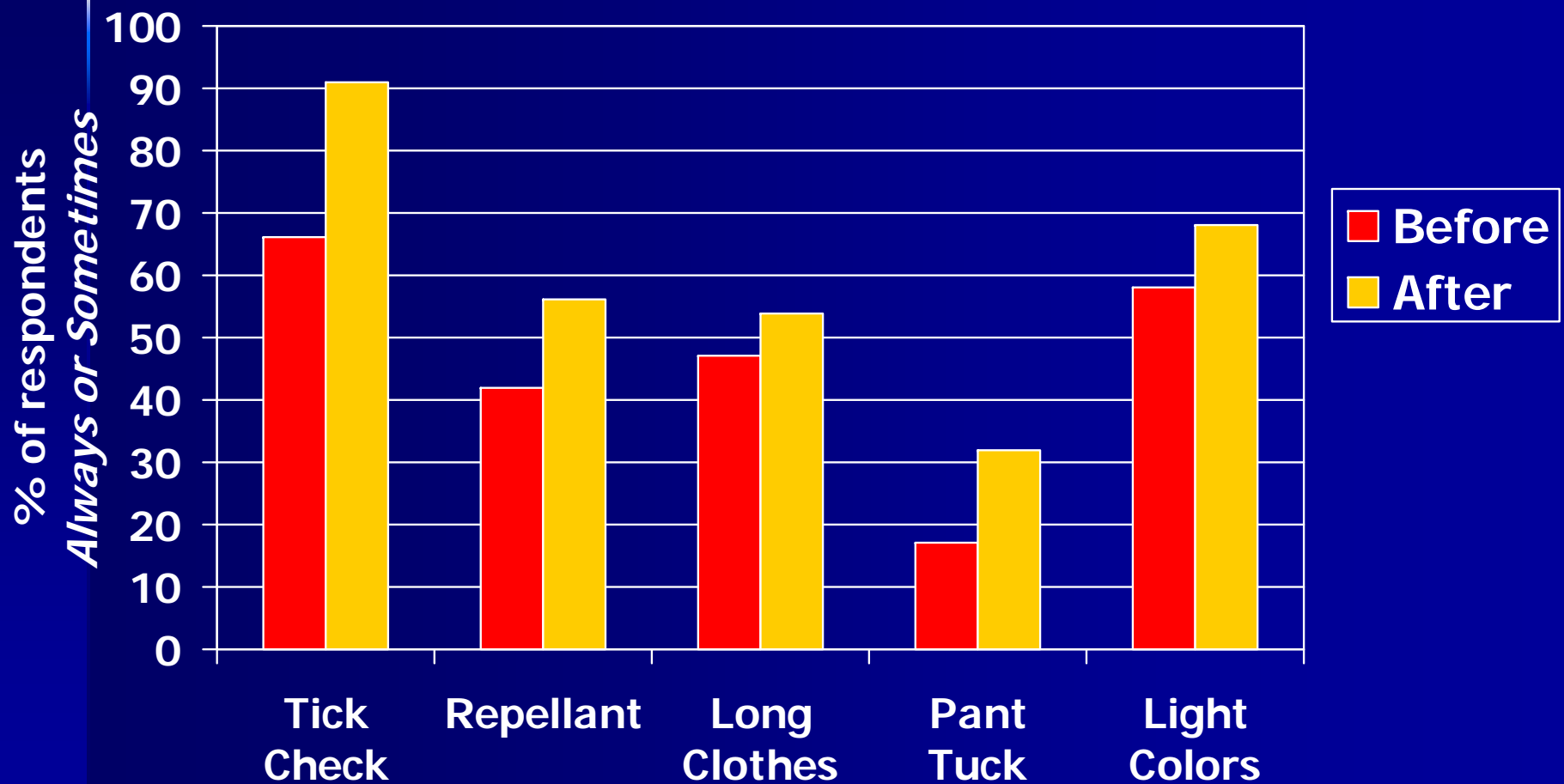


- Half had a known rash, higher in the West.

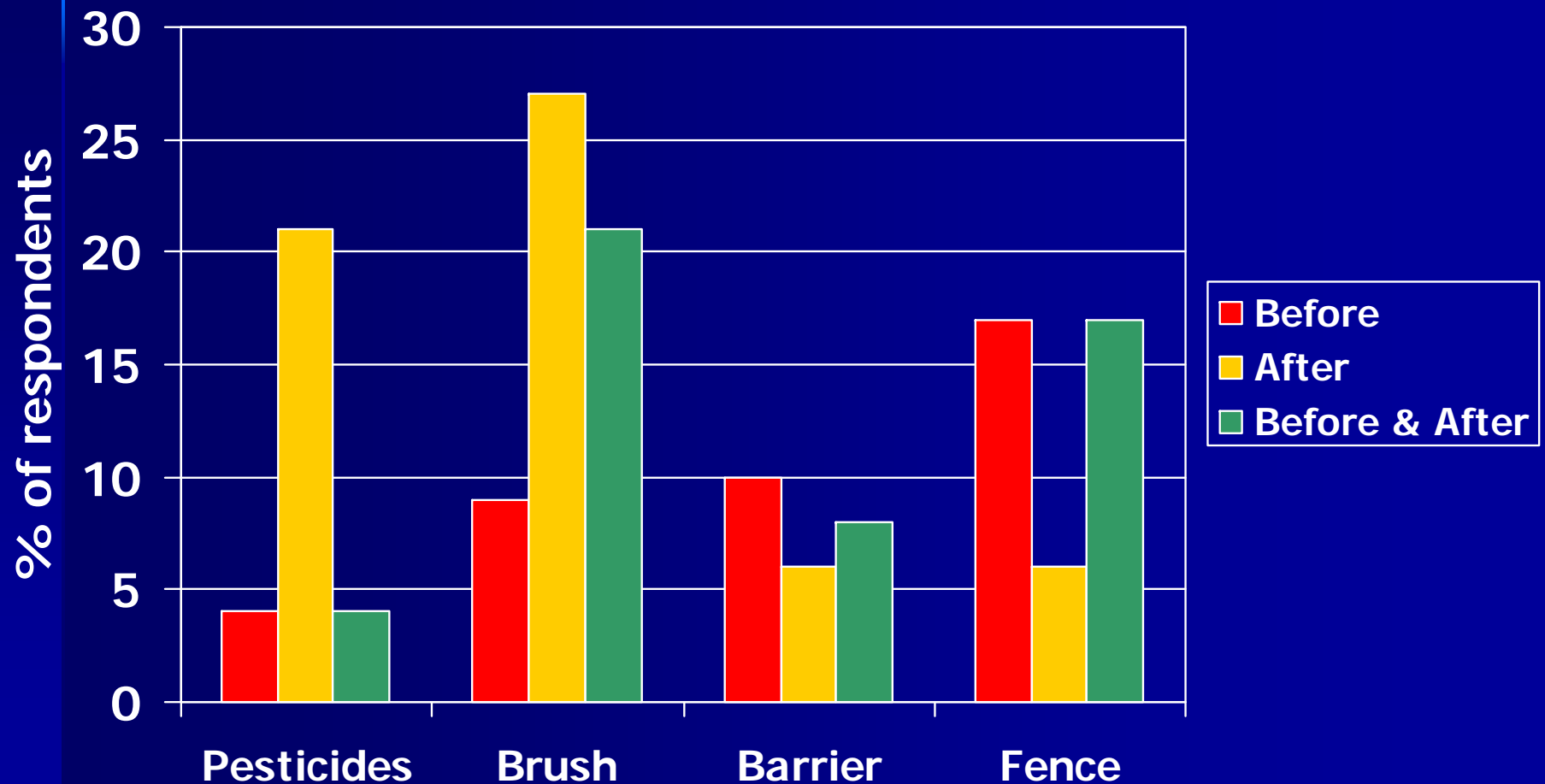
Out-of-Pocket Costs for Doctor Visits and Treatment



Use of Personal Prevention Activities Before & After Diagnosis



Use of Environmental Preventive Measures



Summary

- Tick proof your property and avoid tick infested areas
- Perform daily tick checks
- See your doctor if you have signs or symptoms of Lyme
- Consider antibiotic prophylaxis if you think you were exposed to Lyme

For More Information

- Go to www.loudoun.gov/lyme or to www.cdc.gov/ncidod/dvbid/Lyme to learn more about Lyme disease
- Contact the Loudoun County Health Department at health@loudoun.gov if you have any questions or concerns